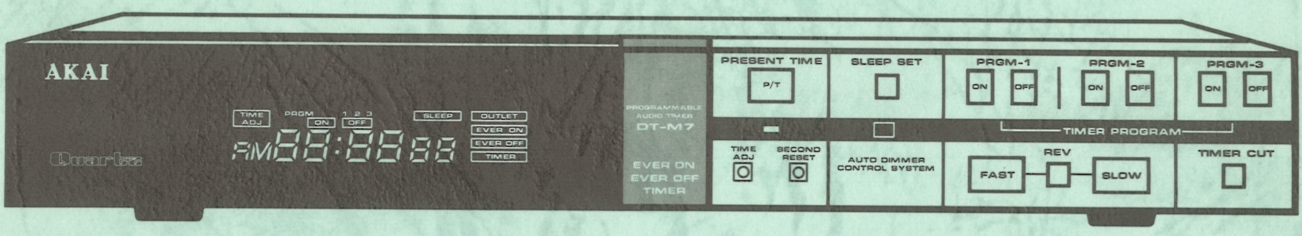
HC-501

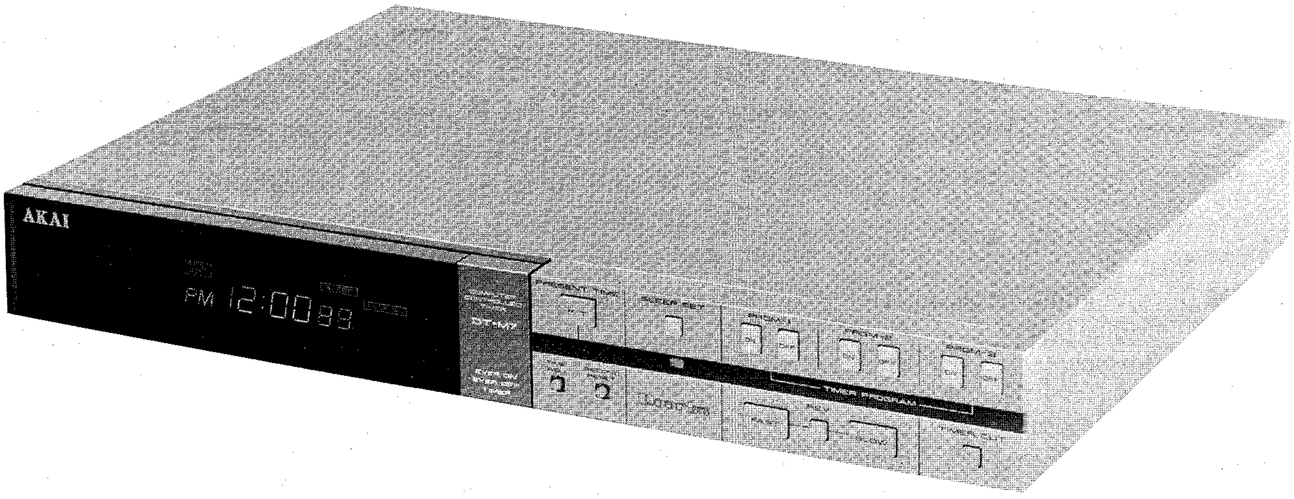
DT-M7

AKAI SERVICE MANUAL


AKAI
Quartz
TIME ADJ
PRGM
1 2 3
ON
OFF
SLEEP
OUTLET
EVER ON
EVER OFF
TIMER
AM 88:88 88
PROGRAMMABLE AUDIO TIMER
DT-M7
EVER ON
EVER OFF
TIMER
PRESENT TIME
P/T
SLEEP SET
PRGM-1
ON
OFF
PRGM-2
ON
OFF
PRGM-3
ON
OFF
TIMER PROGRAM
TIME ADJ
SECOND RESET
AUTO DIMMER CONTROL SYSTEM
REV
FAST
SLOW
TIMER CUT

AUDIO PROGRAM TIMER

MODEL DT-M7



AUDIO PROGRAM TIMER

MODEL DT-M7

SECTION 1 SERVICE MANUAL 3
SECTION 2 PARTS LIST 9
SECTION 3 SCHEMATIC DIAGRAM 14

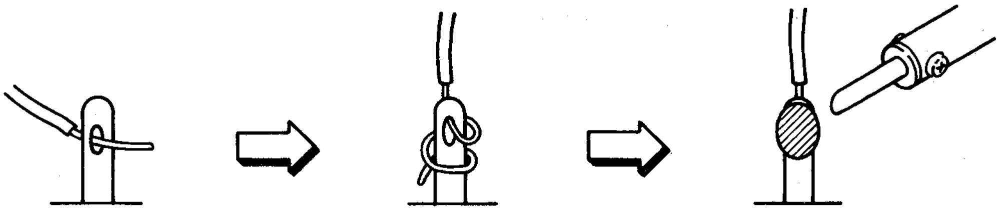
SAFETY INSTRUCTIONS

SAFETY CHECK AFTER SERVICING

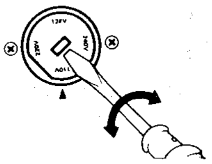
Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 Mohms, but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for $\boxed{\text{C}}$ or $\boxed{\text{A}}$, specified insulation resistance should be more than 2.2 Mohms (ground terminals, microphone jacks, headphone jacks. line-in-out jacks etc.)

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ symbol parts are critical for safety.
   Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with specified replacements.
   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (Insulating Barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.
10. Voltage Conversion
    Models for Japan, Europe, UK and Australia are not equipped with this facility. Each machine is preset at the factory according to destination, but some machines can be set to 110V, 120V, 220V or 240V as required. If your machine's voltage can be converted:
    1) Disconnect the power cord.
    2) Turn the VOLTAGE SELECTOR located on the rear panel with a screwdriver until the correct voltage is indicated.



SECTION 1

SERVICE MANUAL

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I. SPECIFICATIONS 4
II. DISMANTLING OF UNIT 5
III. CONTROLS 6
IV. ADJUSTMENT 6
  1. STANDARD FREQUENCY OSCILLATOR ADJUSTMENT 6
V. COMPOSITION OF P.C BOARDS 7

For basic adjustments, measuring methods, and operating principles, refer to GENERAL TECHNICAL MANUAL.

I. SPECIFICATIONS

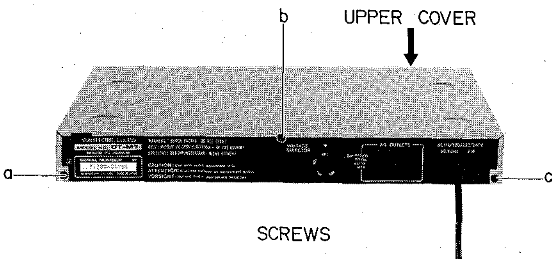
TIMER ACCURACY	±15 Seconds Within One Month (approx. 20°C)
TIMER BASE	Quartz Oscillator
TIMER OPERATION ACCURACY	Less than 0.2 Seconds
TIMER DISPLAY	12 Hour Display (J, B, U MODELS) 24 Hour Display (E MODEL)
TIMER SYSTEM	Daily Type
TIMER SET PERIOD	1 minute to 23 hours and 59 minutes
SLEEP TIME PERIOD	1 minute to 1 hour and 59 minutes
AC OUTLET	Switched × 2 total 1200W Maximum (J Model) Switched × 2 total 600W Maximum (U Model) Switched × 5 total 200W Maximum (E Model) Switched × 5 total 3A Maximum (B Model)
POWER REQUIREMENTS	100V 50 Hz/60Hz (Japan) 220V 50 Hz (Europe except UK) 240V 50 Hz (UK and Austlaria) 110V/120V/220V/240V 50 Hz/60 Hz (U/T)
POWER CONSUMPTION	6W (JPN Model) 7W (U/T Model)
DIMENTIONS	350 (W) × 50 (H) × 254 (D) mm (13.8 × 2.0 × 10 inches)
WEIGHT	1.9 kg (4.2 lbs)

*For improvement purposes, specifications and design are subject to change without notice.

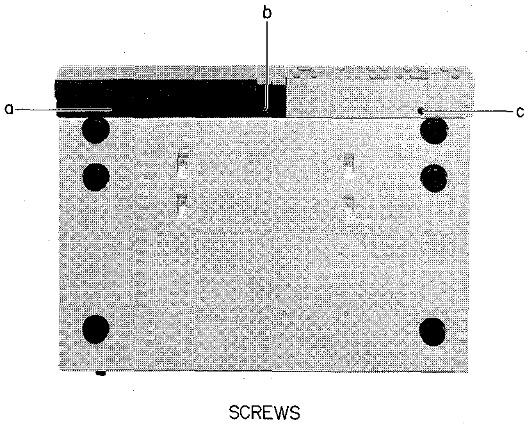
II. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.

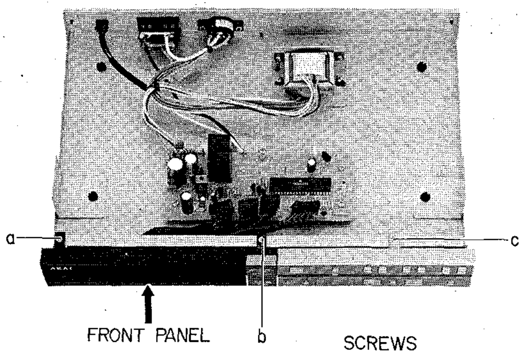
1


b
UPPER COVER
a
c
SCREWS

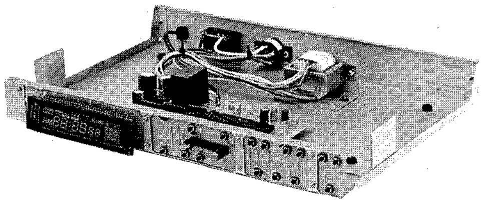
2



3


a
c
FRONT PANEL
b
SCREWS

4



III. CONTROLS

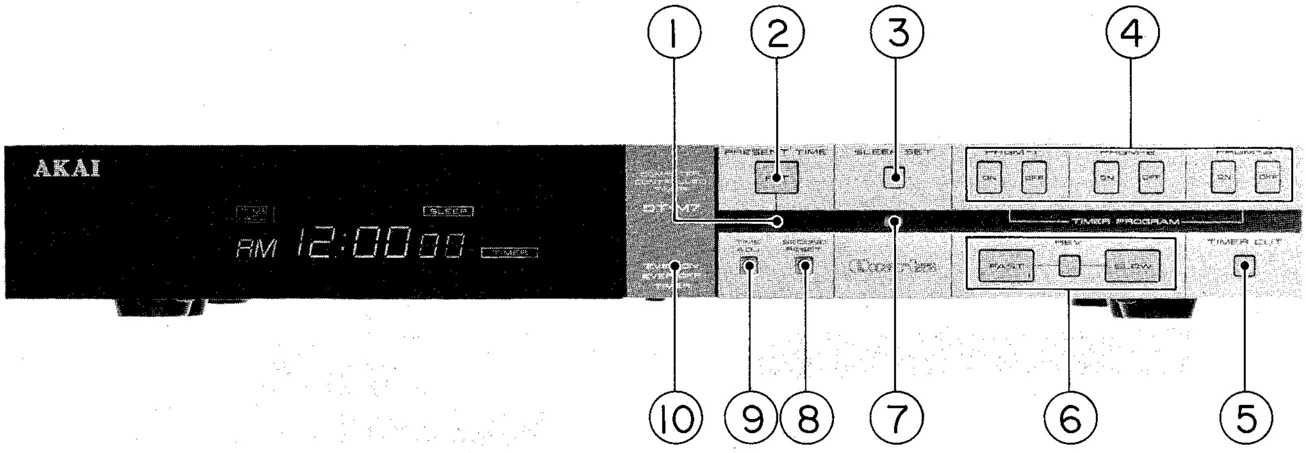

1
2
3
4
AKAI
AM 12:00 00
SLEEP
TIMER
PRESENT TIME
SLEEP SET
DT-M7
PRGM-1
PRGM-2
PRGM-3
ON
OFF
TIMER PROGRAM
REV
FAST
SLOW
TIMER CUT
10
9
8
7
6
5

Fig. 3-1

1. LED INDICATOR
   (Lights when the present time is displayed and flashes on and off at all other times.)
2. PRESENT TIME (P/T) BUTTON
   (To display the present time.)
3. SLEEP SET BUTTON
   (To set the sleep time.)
4. PROGRAM PRGM-1 TO PRGM-3 BUTTONS
   (For programming.)
5. TIMER CUT BUTTON
   (To stop timer controlled operation.)
6. FAST, REV AND SLOW BUTTONS
   (To set the present time, sleep time, turn on time and turn off time.)
   How to use:
   To quickly advance the time —> Depress the FAST button.
   To slowly advance the time —> Depress the SLOW button.
   To quickly set back the time —> Depress the REV and FAST buttons simultaneously.
   To slowly set back the time —> Depress the REV and SLOW buttons simultaneously.
7. SENSOR FOR THE AUTO DIMMER
8. SECOND RESET BUTTON
   (To reset the second indicator to zero.)
9. TIME ADJ BUTTON
   (To set the present time.)
10. TIMER MODE BUTTON
    (To select the timer mode.)

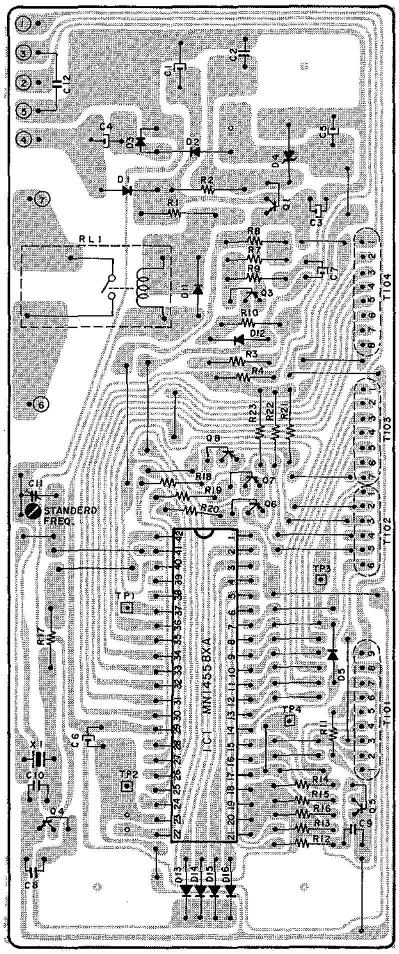
IV. ADJNSTMENT

4-1. STANDARD FREQUENCY OSCILLATOR ADJUSTMENT

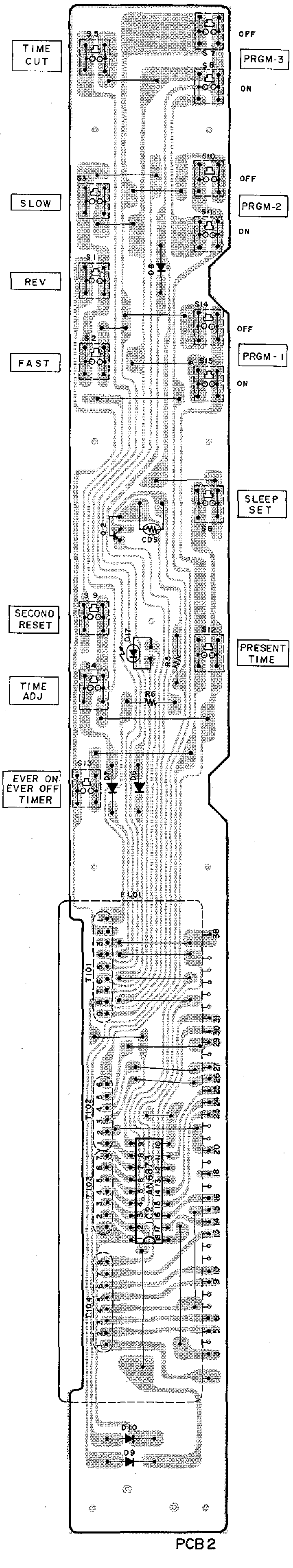
1) Connect a Frequency Counter between TP1 and GND.
2) Adjust the Trimmer Capacitor (C11), so that the Frequency Counter Reading is 128.00016Hz (7.81249 ms).

V. COMPOSITION OF PC BOARDS

1) MODEL DT-M7


RL1
STANDERD FREQ.
IC1 MN1455BXA
T101
T102
T103
T104
TP1
TP2
TP3
TP4
X1
D1
D2
D3
D4
D5
D11
D12
D13
D14
D15
D16
Q1
Q3
Q4
Q5
Q6
Q7
Q8
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
R1
R2
R3
R4
R7
R8
R9
R10
R11
R12
R13
R14
R15
R16
R17
R18
R19
R20
R21
R22
R23

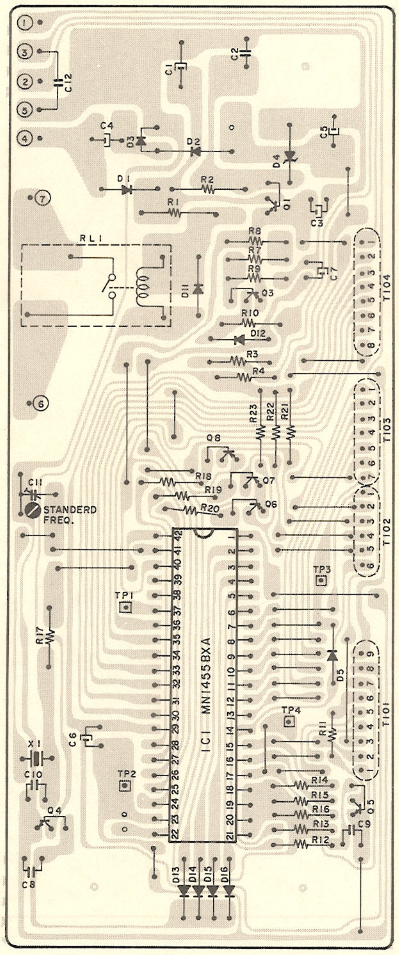
PCB I


TIME CUT
PRGM-3
OFF
ON
SLOW
PRGM-2
OFF
ON
REV
FAST
PRGM-1
OFF
ON
SLEEP SET
SECOND RESET
PRESENT TIME
TIME ADJ
EVER ON EVER OFF TIMER
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
S12
S13
S14
S15
D6
D7
D8
D9
D10
D17
Q2
CDS
R5
R6
FL01
T101
T102
T103
T104
IC2 AN6873

PCB2

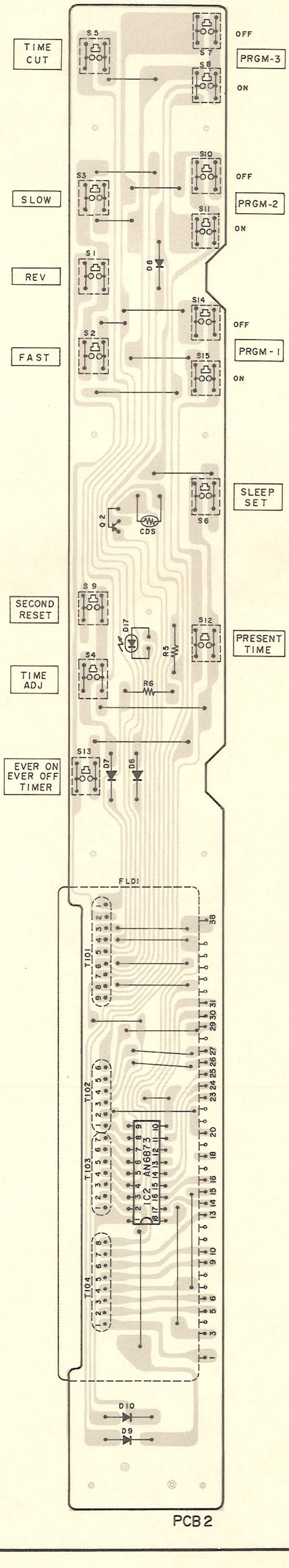
V. COMPOSITION OF PC BOARDS

1) MODEL DT-M7



C12
C1
C2
C4
D3
D2
C5
D4
D1
R2
Q1
R1
C3
RL1
R8
R7
R9
C7
D11
Q3
R10
D12
R3
R4
T104
R23
R22
R21
T103
Q8
R18
Q7
R19
Q6
R20
C11
STANDERD FREQ.
T102
TP3
TP1
R17
IC1 MN1455BXA
D5
T101
TP4
C6
R11
X1
C10
TP2
R14
Q4
R15
R16
Q5
R13
R12
C9
C8
D13
D14
D15
D16

PCB 1



S5
S7
TIME CUT
OFF
PRGM-3
S8
ON
S10
S3
OFF
SLOW
PRGM-2
S11
ON
S1
D8
REV
S14
OFF
S2
FAST
PRGM-1
S15
ON
SLEEP SET
S6
Q2
CDS
S9
SECOND RESET
D17
S12
R5
PRESENT TIME
S4
TIME ADJ
R6
S13
D7
D6
EVER ON EVER OFF TIMER
FLD1
T101
T102
T103
IC2 AN6873
T104
D10
D9

PCB2

SECTION 2

PARTS LIST

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RECOMMENDED SPARE PARTS 10
1. PCB1 BLOCK 11
2. PCB2 BLOCK 11
3. FINALY ASSEMBLY BLOCK 12
INDEX... 13

Resistor and Capacitor which is not listed in this parts list, please refer to COMMON LIST FOR SERVICE PARTS.

ATTENTION

1. When placing an order for parts, be sure to list the parts no. model no., and description. There are instances in which if any of this information is omitted, parts cannot be shipped or the wrong parts will be delivered.
2. Please be careful not to make a mistake in the parts no. If the parts no. is in error, a part different from the one ordered may be delivered.
3. Because parts number and parts unit supply in the Preliminary Parts List may be partially changed, please use this parts list for all future reference.

HOW TO USE THIS PARTS LIST

1. This Parts List shows the parts that are considered necessary for repairs. Other parts, such as resistors and capacitors, are shown in the "Common List for Service Parts". Select and order such parts from the "Common List for Service Parts".
2. The Recommended Spare Parts shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not be supplied in principle.
4. How to read list
   a) Mechanism Block
   b) P.C Board Block

2. HEAD BASE BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
2-1x	BH-T2023A320A	HEAD BASE BLOCK GX-F66R
2-2	HP-H2206A010A	HEAD R/P PR4-8FU C
2-3	ZS-477876	PAN20x03STL CMT
2-4	ZS-536488	BID20x08STL CMT
2-5	ZG-402895	CS ANGLE ADJUST SPRING

SP (Service Parts) Classification

A small "x" indicates the inability to show that particular part in the Photo or Illustration.

This number corresponds with the individual parts index number in that figure

This number corresponds with the Figure Number

6. SYS. CON. P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
6-1	BA-T2034A070A	PC SYS CON BLK GX-F44R
6-IC1	EI-324536	IC HD14049BP
6-IC2	EI-336801	IC MB8841-564M
6-IC3	EI-331661	IC SN7405N
6-IC4	EI-336725	IC M54527P
6-TR1to4	ET-200985	TR 2SC2603 F,G
6-TR5to28	ET-554657	TR 2SA733A P,Q
6-D1	ED-318292	D SILICON H 1S2473T-77 T26
6-D2to4	ED-308952	D GERMA V 1K34A-LR F07
6-D5to10	ED-318292	D SILICON H 1S2473T-77 T26
6-X1	EI-318384	OSC X'TAL NC-18C 3.579545MHZ

SP (Service Parts) Classification

This reference numbers corresponds with symbol numbers of Schematic Diagrams.

5. Both the kind of part and installation position can be determined by the Parts Number. To determine where a parts number is listed, utilize Parts Index at end of Parts List. It is necessary first of all to find the Parts Number. This can be accomplished by using the Reference Number listed at right of parts number in the Parts Index.

WARNING

⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS

AVERTISSEMENT

⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

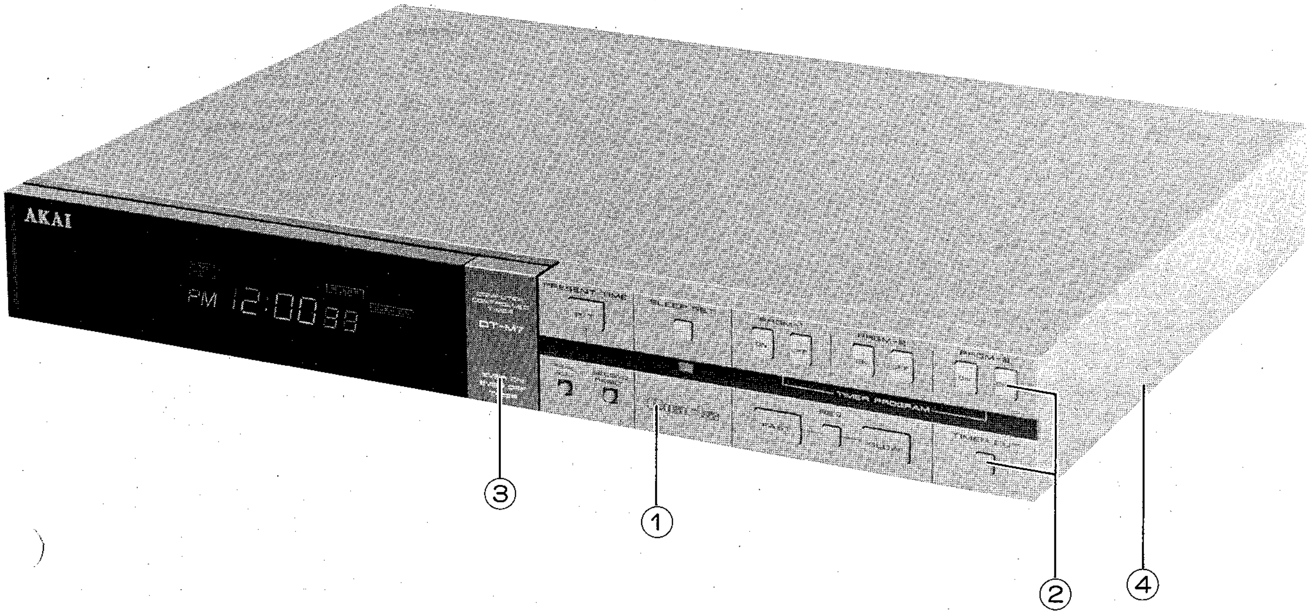
1. PCB 1 BLOCK

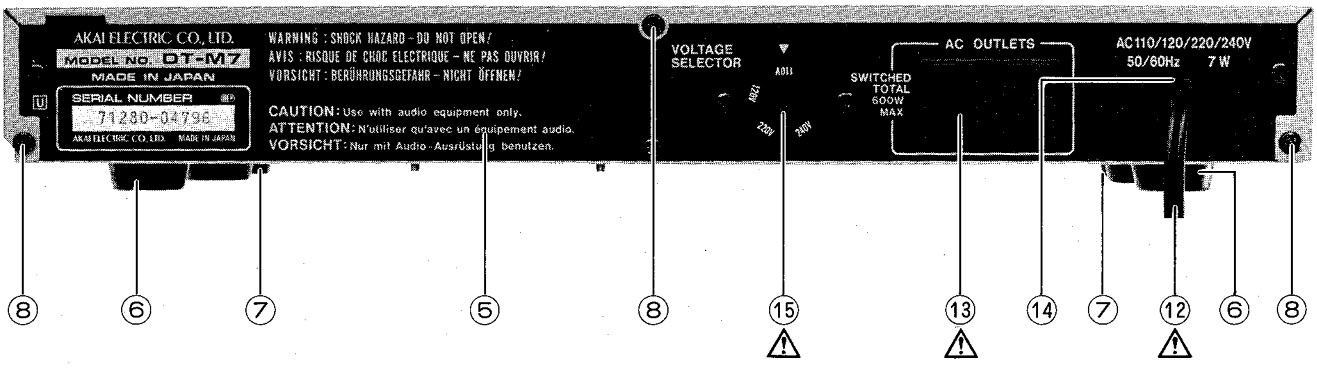
REF. NO.	PARTS NO.	DESCRIPTION
1-IC1	EI-711472	IC MN1455BXA
1-Q1	ET-711469	TR 2SD856
1-Q3	ET-350335	TR 2SA564 Q
1-Q4	ET-706935	TR 2SC1383NC
1-Q5	ET-342696	TR 2SC828 Q,R
1-Q6	ET-350335	TR 2SA564 Q
1-Q7	ET-350335	TR 2SA564 Q
1-Q8	ET-350335	TR 2SA564 Q
1-D1	ED-711466	D SILICON S5277B
1-D2	ED-711466	D SILICON S5277B
1-D3	ED-711466	D SILICON S5277B
1-D4	ED-711480	D ZENER MA1056
1-D5	ED-711467	D SILICON MA150
1-D11	ED-711467	D SILICON MA150
1-D12	ED-711467	D SILICON MA150
1-D13	ED-711467	D SILICON MA150
1-D14	ED-711467	D SILICON MA150
1-D15	ED-711467	D SILICON MA150
1-D16	ED-711467	D SILICON MA150
1-D17	ED-711468	D LED LN442YP
1-RL1U	EP-708679	⚠ RELAY AR321173 (U,J)
1-RL1E	EP-708677	⚠ RELAY AR32118 (E,B)
1-C11	EC-706953	C S-FIX
1-X1	EI-711471	OSC X,TAL 4.1943 MHz

2. PCB 2 BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
2-IC2	EI-711473	IC AN6873N
2-Q2	ET-350335	TR 2SA564 Q
2-D6	ED-711467	D SILICON MA150
2-D7	ED-711467	D SILICON MA150
2-D8	ED-711467	D SILICON MA150
2-D9	ED-711467	D SILICON MA150
2-D10	ED-711467	D SILICON MA150
2-CDS	ET-706957	PHOTO SENSOR MKY-76C
2-FLD1	EM-344934	IND FL 6-MT-55ZYK
2-S1	ES-711474	SW TACT EVQ-QSB05K
2-S2	ES-711474	SW TACT EVQ-QSB05K
2-S3	ES-711474	SW TACT EVQ-QSB05K
2-S4	ES-711474	SW TACT EVQ-QSB05K
2-S5	ES-711474	SW TACT EVQ-QSB05K
2-S6	ES-711474	SW TACT EVQ-QSB05K
2-S7	ES-711474	SW TACT EVQ-QSB05K
2-S8	ES-711474	SW TACT EVQ-QSB05K
2-59	ES-711474	SW TACT EVQ-QSB05K
2-S10	ES-711474	SW TACT EVQ-QSB05K
2-S11	ES-711474	SW TACT EVQ-QSB05K
2-S12	ES-711474	SW TACT EVQ-QSB05K
2-S13	ES-711474	SW TACT EVQ-QSB05K
2-S14	ES-711474	SW TACT EVQ-QSB05K
2-S15	ES-711474	SW TACT EVQ-QSB05K

FINAL ASSEMBLY BLOCK


AKAI
PM 12:00 39
DT-M7
TIMER PROGRAM
③
①
②
④


AKAI ELECTRIC CO., LTD.
MODEL NO. DT-M7
MADE IN JAPAN
SERIAL NUMBER
71280-04796
AKAI ELECTRIC CO., LTD. MADE IN JAPAN
WARNING : SHOCK HAZARD - DO NOT OPEN!
AVIS : RISQUE DE CHOC ELECTRIQUE - NE PAS OUVRIR!
VORSICHT : BERÜHRUNGSGEFAHR - NICHT ÖFFNEN!
CAUTION: Use with audio equipment only.
ATTENTION: N'utiliser qu'avec un équipement audio.
VORSICHT: Nur mit Audio-Ausrüstung benutzen.
VOLTAGE SELECTOR
110V
120V
220V
240V
AC OUTLETS
SWITCHED TOTAL 600W MAX
AC110/120/220/240V
50/60Hz 7 W
⑧
⑥
⑦
⑤
⑧
⑮ ⚠
⑬ ⚠
⑭
⑦
⑫ ⚠
⑥
⑧

3. FINAL ASSEMBLY BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
3-1	BD-711447	PANEL FRONT ASSY
3-2	SK-711449	RUBBER BUTTON SHEET OPERATION
3-3	SK-711450	CENTER KNOB
3-4	BC-344323	COVER UPPER
3-5U	SP-711452	PANEL REAR DT-M7(U)
3-5J	SP-711451	PANEL REAR DT-M7(J)
3-5E	SP-711454	PANEL REAR DT-M7(E)
3-5B	SP-711453	PANEL REAR DT-M7(B)
3-6	SA-711455	RUBBER FOOT
3-7	SA-305646	RUBBER FOOT (A) (BLACK)
3-8	ZS-355511	BID30×06STL BNI
3-9x	ZS-572242	CTS26×06STL CMT
3-10x	ZS-555766	BID26×06STL CMT
3-11x	BT-711460	⚠ TRANS POWER DT-M7(U)
3-11xJ	BT-711459	⚠ TRANS POWER DT-M7(J)
3-11xE	BT-711463	⚠ TRANS POWER DT-M7(E)
3-11xB	BT-711462	⚠ TRANS POWER DT-M7(B)
3-12U	EW-306428	⚠ AC CORD 2 CORES KP-205A, VFF J
3-12J	EW-306427	⚠ AC CORD 2 CORES KP-211, VFF J
3-12E	EW-313882	⚠ AC CORD 2 CORES KP-419C, LTCE-2F E
3-12B	EW-313884	⚠ AC CORD 2 CORES GTBS-2F 24/0.20×2 B
3-13U	EJ-346248	⚠ SOCKET OUTLET S2T-732T-172 (U,J)
3-13E	EJ-343981	⚠ SOCKET OUTLET S2-729T-100 E 2P (E)
3-13B	EJ-346641	⚠ SOCKET OUTLET S2-741T-110 (B)
3-14U	SZ-711475	STRAIN RELIEF 1056
3-14E	SZ-711476	STRAIN RELIEF 4N4
3-15	ES-706968	⚠ SW SELECTOR (S17)
3-16x	ES-708680	⚠ SW PUSH SDS3P (S16)
3-17x	EF-623125	⚠ FUSE SEMKO T 250V 2.50A
3-18x	EF-691007	⚠ FUSE SEMKO T 250V 3.15A

INDEX

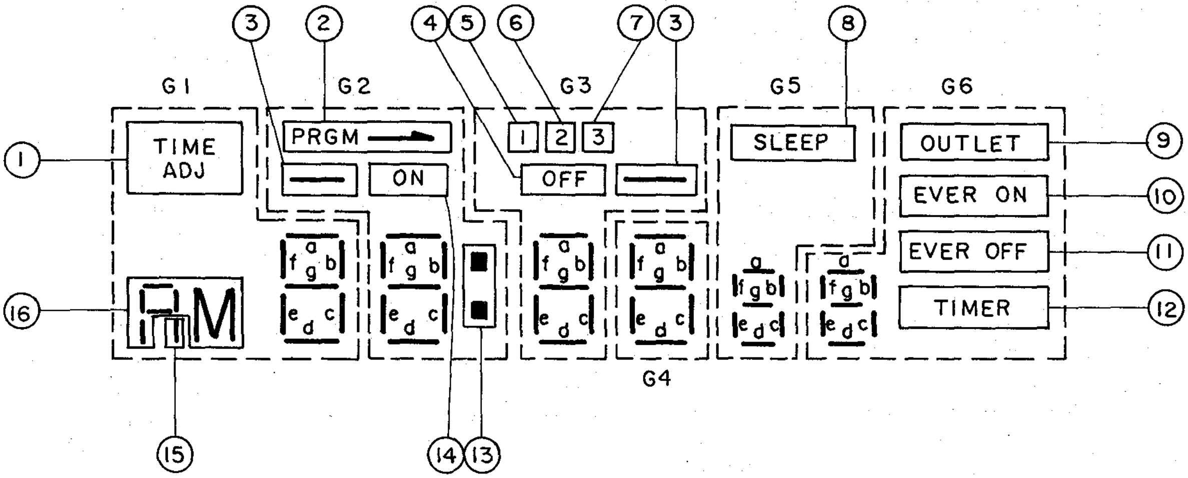
PARTS NO.	REF. NO.	PARTS NO.	REF. NO.	PARTS NO.	REF. NO.	PARTS NO.	REF. NO.	PARTS NO.	REF. NO.
BC-344323	3-4								
BD-711447	3-1								
BT-711459	3-11xJ								
BT-711460	3-11xU								
BT-711462	3-11xB								
BT-711463	3-11xE								
EC-706953	1-C11								
ED-711466	1-D3								
ED-711466	1-D1								
ED-711466	1-D2								
ED-711467	1-D16								
ED-711467	1-D5								
ED-711467	1-D13								
ED-711467	1-D14								
ED-711467	1-D15								
ED-711467	1-D12								
ED-711467	1-D11								
ED-711467	2-D10								
ED-711467	2-D9								
ED-711467	2-D7								
ED-711467	2-D8								
ED-711467	2-D6								
ED-711468	1-D17								
ED-711480	1-D4								
EF-623125	3-17x								
EF-691007	3-18x								
EI-711471	1-X1								
EI-711472	1-IC1								
EI-711473	2-IC2								
EJ-343981	3-13E								
EJ-346248	3-13U								
EJ-346641	3-13B								
EM-344934	2-FLD1								
EP-708677	1-RL1E								
EP-708679	1-RL1U								
ES-706968	3-15								
ES-708680	3-16x								
ES-711474	2-S10								
ES-711474	2-S14								
ES-711474	2-S8								
ES-711474	2-S9								
ES-711474	2-S2								
ES-711474	2-S4								
ES-711474	2-S5								
ES-171474	2-S12								
ES-711474	2-S1								
ES-711474	2-S11								
ES-711474	2-S15								
ES-711474	2-S6								
ES-711474	2-S3								
ES-711474	2-S7								
ES-711474	2-S13								
ET-342696	1-Q5								
ET-350335	1-Q8								
ET-350335	1-Q7								
ET-350335	1-Q3								
ET-350335	1-Q6								
ET-350335	2-Q2								
ET-706935	1-Q4								
ET-706957	2-CDS								
ET-711469	1-Q1								
EW-306427	3-12J								
EW-306428	3-12U								
EW-313882	3-12E								
EW-313884	3-12B								
SA-305646	3-7								
SA-711455	3-6								
SK-711449	3-2								
SK-711450	3-3								
SP-711451	3-5J								
SP-711452	3-5U								
SP-711453	3-5B								
SP-711454	3-5E								
SZ-711475	3-14U								
SZ-711476	3-14E								
ZS-355511	3-8								
ZS-555726	3-10x								
ZS-572242	3-9x								

SECTION 3

SCHEMATIC DIAGRAM

1. BLOCK DIAGRAM AND TERMINALS DISCRIPTION OF MN1455B 15
2. TERMINALS DISCRIPTION OF DISPLAY 16
3. DT-M7 N0830301A SCHEMATIC DIAGRAM 17

2. TERMINALS DISCRIPTION OF FL DISPLAY


G1
G2
G3
G4
G5
G6
TIME ADJ
PRGM
ON
OFF
1
2
3
SLEEP
OUTLET
EVER ON
EVER OFF
TIMER
FM
a
b
c
d
e
f
g
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑯

Pin No.	Internal Connection	Pin No.	Internal Connection
1	Filament	20	SEGMENT g
2	NC	21	G3 (GRID 3)
3	G1 (GRID 1)	22	G4 (GRID 4)
4	NC	23	G4 (GRID 4)
5	SEGMENT a	24	G5 (GRID 5)
6	SEGMENT b	25	SEGMENT ①②⑥⑧⑨
7	G6 (GRID 6)	26	SEGMENT ⑦ ⑩ ⑮
8	G5 (GRID 5)	27	SEGMENT ④ ⑪ ⑭ ⑯
9	SEGMENT c	28	G5 (GRID 5)
10	SEGMENT d	29	SEGMENT ③ ⑫
11	G2 (GRID 2)	30	G6 (GRID 6)
12	NC	31	SEGMENT ⑤ ⑬
13	SEGMENT e	32	NC
14	G2 (GRID 2)	33	NC
15	SEGMENT f	34	NC
16	G3 (GRID 3)	35	G6 (GRID 6)
17	NC	36	NC
18	NC		
19	NC	38	Filament

NC = No connection

1. BLOCK DIAGRAM AND TERMINALS DISCRIPTION OF MN1455B

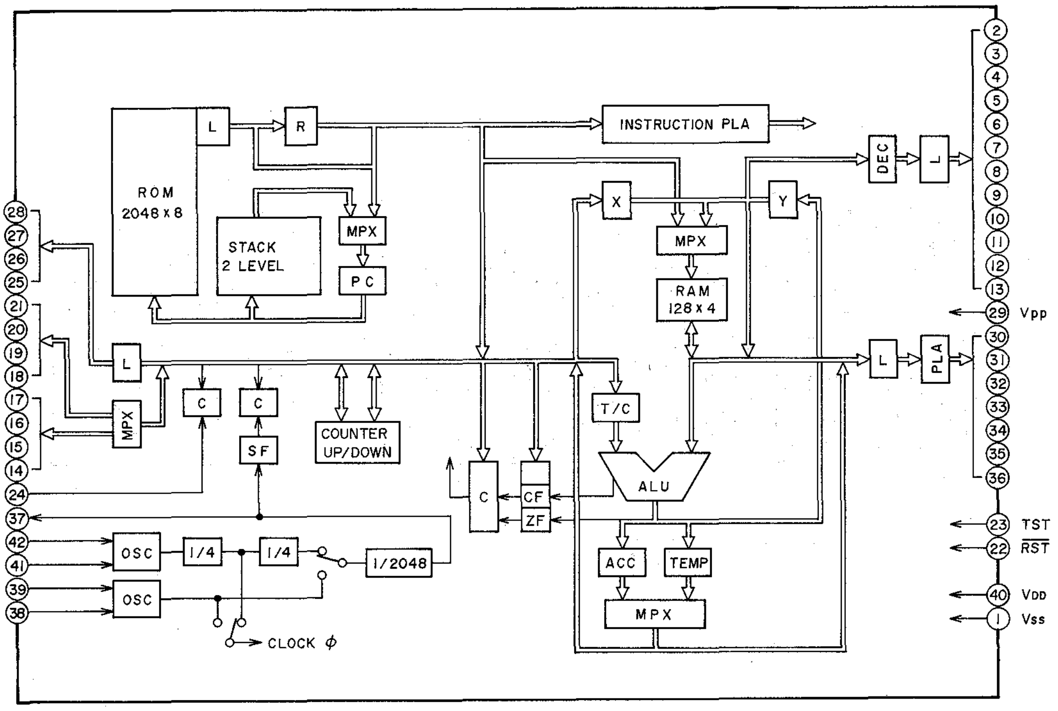
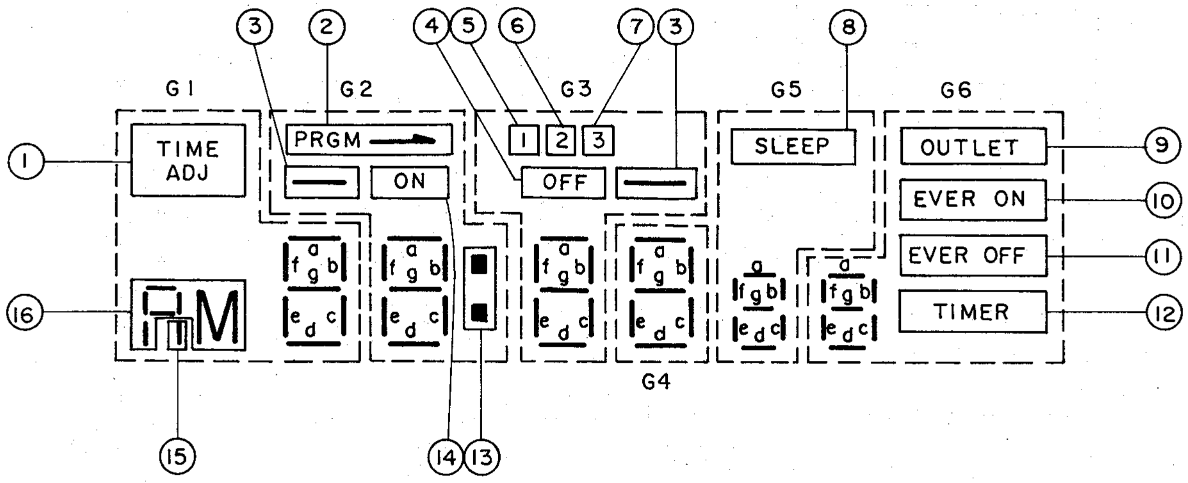

ROM 2048 x 8
L
R
INSTRUCTION PLA
STACK 2 LEVEL
MPX
P C
DEC
L
X
Y
MPX
RAM 128 x 4
L
PLA
MPX
C
C
S F
COUNTER UP/DOWN
T/C
ALU
C
CF
ZF
ACC
TEMP
MPX
OSC
1/4
1/4
1/2048
OSC
CLOCK φ
Vpp
TST
RST
VDD
Vss
2
3
4
5
6
7
8
9
10
11
12
13
29
30
31
32
33
34
35
36
23
22
40
1
28
27
26
25
21
20
19
18
17
16
15
14
24
37
42
41
39
38

Fig. Block Diagram of IC MN1455B

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	TO GND (0V)	22	$\overline{\text{RST}}$	RESET at ACTIVE "L"
2	CO11	SLEEP output	23	TEST	TEST terminal, To Vss (GND)
3	CO10	TIMER 3 output	24	SNS0	Sencer INPUT, to VDD
4	CO9	TIMER 2 output	25	EO0	SEGMENT DATA *⑤⑬
5	CO8	TIMER 1 output	26	EO1	*③⑫
6	CO7	LED control present time indicating = "H" Others = _⎍_⎍_	27	EO2	*④⑪⑭⑯
			28	EO3	*⑦⑩⑮
			29	VPP	
7	CO6	SEGMENT DATA *①②⑥⑧⑨	30	DO0	SEGMENT DATA *a
8	CO5	TIMING DATA Output at ACTIVE "L"	31	DO1	*b
9	CO4		32	DO2	*c
10	CO3		33	DO3	*d
11	CO2		34	DO4	*e
12	CO1		35	DO5	*f
13	CO0		36	DO6	*g
14	A13	KEY INPUT Input at ACTIVE "L"	37	OSC128	CLOCK MONITOR TERMINAL
15	A12		38	X'TAL 4	NOT USE
16	A11		39	X'TAL 3	
17	A10		40	VDD	+5 V
18	B13	H = 12 L = 24:00	41	X'TAL 2	X'tal
19	B12	Not use (connect to VDD)	42	X'TAL 1	
20	B11				
21	B10				

indicated   * MARKS are Refer to FLD chart.

2. TERMINALS DISCRIPTION OF FL DISPLAY


G1
G2
G3
G4
G5
G6
TIME ADJ
PRGM
ON
OFF
1
2
3
SLEEP
OUTLET
EVER ON
EVER OFF
TIMER
a
b
c
d
e
f
g
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑯

Pin No.	Internal Connection	Pin No.	Internal Connection
1	Filament	20	SEGMENT g
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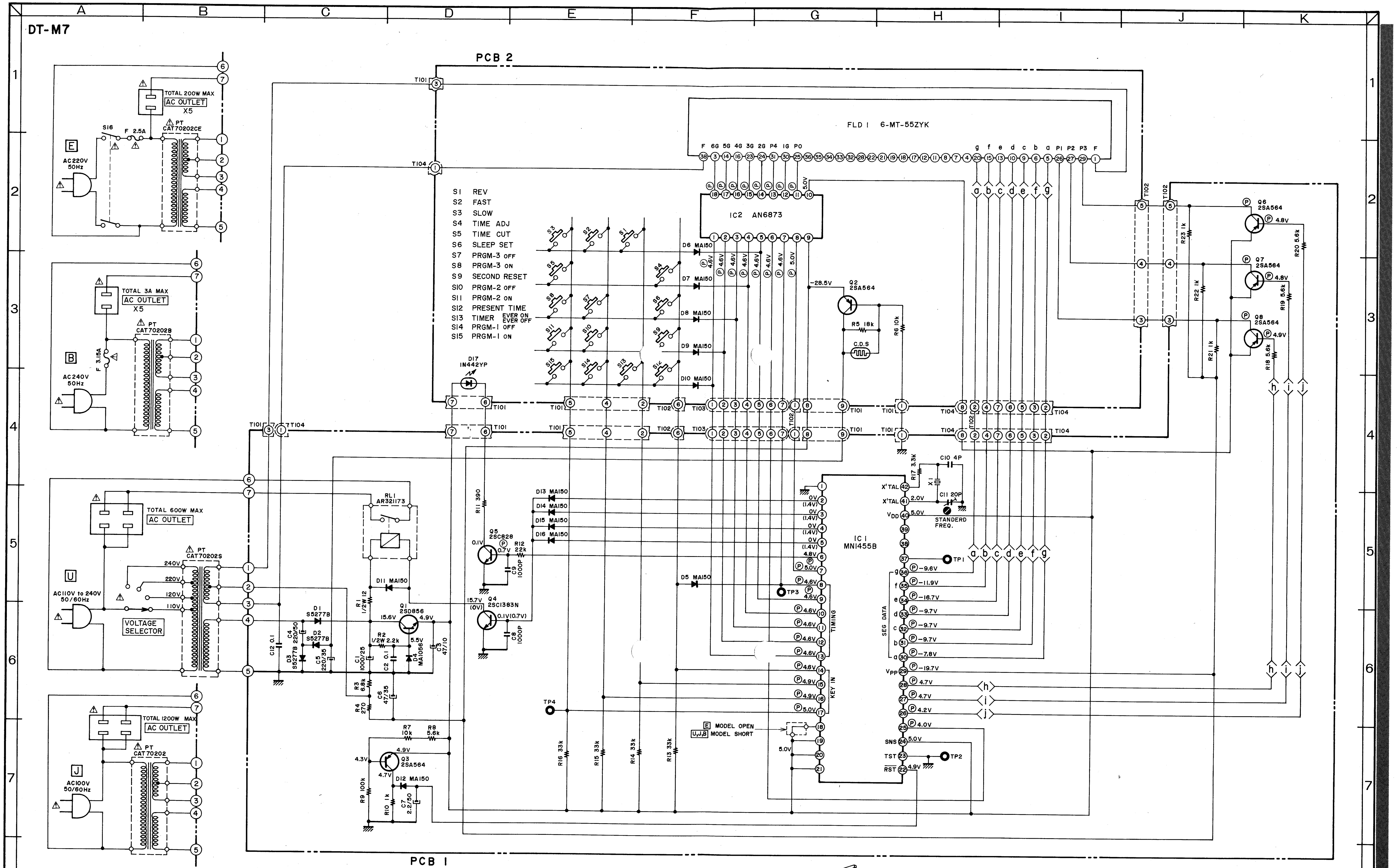
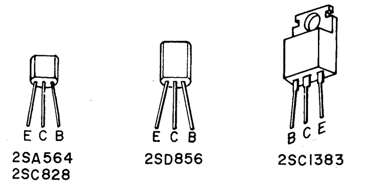
8	G5 (GRID 5)	27	SEGMENT ④ ⑪ ⑭ ⑯
9	SEGMENT c	28	G5 (GRID 5)
10	SEGMENT d	29	SEGMENT ③ ⑫
11	G2 (GRID 2)	30	G6 (GRID 6)
12	NC	31	SEGMENT ⑤ ⑬
13	SEGMENT e	32	NC
14	G2 (GRID 2)	33	NC
15	SEGMENT f	34	NC
16	G3 (GRID 3)	35	G6 (GRID 6)
17	NC	36	NC
18	NC		
19	NC	38	Filament

NC = No connection


DT-M7
PCB 2
PCB 1
FLD 1 6-MT-55ZYK
IC2 AN6873
IC 1 MN1455B
S1 REV
S2 FAST
S3 SLOW
S4 TIME ADJ
S5 TIME CUT
S6 SLEEP SET
S7 PRGM-3 OFF
S8 PRGM-3 ON
S9 SECOND RESET
S10 PRGM-2 OFF
S11 PRGM-2 ON
S12 PRESENT TIME
S13 TIMER EVER ON EVER OFF
S14 PRGM-1 OFF
S15 PRGM-1 ON
E
AC220V 50Hz
TOTAL 200W MAX AC OUTLET X5
PT CAT70202CE
S16
F 2.5A
B
AC240V 50Hz
TOTAL 3A MAX AC OUTLET X5
PT CAT70202B
F 3.15A
U
AC110V to 240V 50/60Hz
TOTAL 600W MAX AC OUTLET
PT CAT70202S
VOLTAGE SELECTOR
240V
220V
120V
110V
J
AC100V 50/60Hz
TOTAL 1200W MAX AC OUTLET
PT CAT70202
RL1 AR321173
Q1 2SD856
Q2 2SA564
Q3 2SA564
Q4 2SC1383N
Q5 2SC828
Q6 2SA564
Q7 2SA564
Q8 2SA564
D17 1N442YP
CDS
TP1
TP2
TP3
TP4
X'TAL
VDD
VPP
SNS
TST
RST
STANDERD FREQ.
SEG DATA
TIMING
KEY IN
E MODEL OPEN
U,J,B MODEL SHORT
T101
T102
T103
T104


E C B
2SA564
2SC828
E C B
2SD856
B C E
2SC1383

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY,
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S
RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL,
NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

VOLTAGES INDICATED ARE MESURED
AT "PRESENT TIME" MODE
( ) FOR "EVER ON" MODE
Ⓟ INDICATES PULSE SIGNAL
FOR IC1 ⑥ Pin
DC 4.8V AT PRESENT TIME MODE
Ⓟ AT OTHER MODES

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W (J)
ALL CAPACITORS IN μF 50 WV (J)

(AUDIO TIMER)
DT-M7
SCHEMATIC DIAGRAM
NO. 830301A

DT-M7

AKAI ELECTRIC CO., LTD.
12-14, 2-Chome, Higashi-Kojiya, Ohta-Ku, Tokyo, Japan
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